

the parallax be diminished by $\frac{1}{60}$ part, the magnitudes of A, B, C, and of the acceleration, will be diminished by $\frac{1}{20}$ part.

17. The following deductions are unimportant, but they may be interesting. In the Moon's orbit, $1'' = 6000$ feet, very nearly. In a century, therefore, the Moon is accelerated 60000 feet. In the first year, the acceleration is 6 feet; in the second year, 18 feet additional, &c. This is additive to the computed longitude, whether before or after the epoch.

In a century, the Moon's distance is changed by $\frac{60000 \text{ feet}}{t}$.

Now t for 100 years is 8400, and the Moon's distance is changed in a century by $\frac{60000}{8400}$ feet or 7.14 feet; in one year it is changed by 0.0714 feet, or less than an inch. This change proceeds uniformly; for every year before the epoch, the distance is additionally greater than the computed distance by the multiple of 0.0714 feet, and for every year after the epoch, it is additionally less.

Wherever Bb occurs, we may use the value found thus. In a century, δv , or ht^2 , or $-Bb \cdot t^2$, or $-Bb \times (8400)^2 = 60000$ feet. Therefore Bb (without respect of sign) $= \frac{60000 \text{ feet}}{(8400)^2} = \frac{6 \text{ feet}}{(84)^2} = 0.0101 \text{ inch}$.

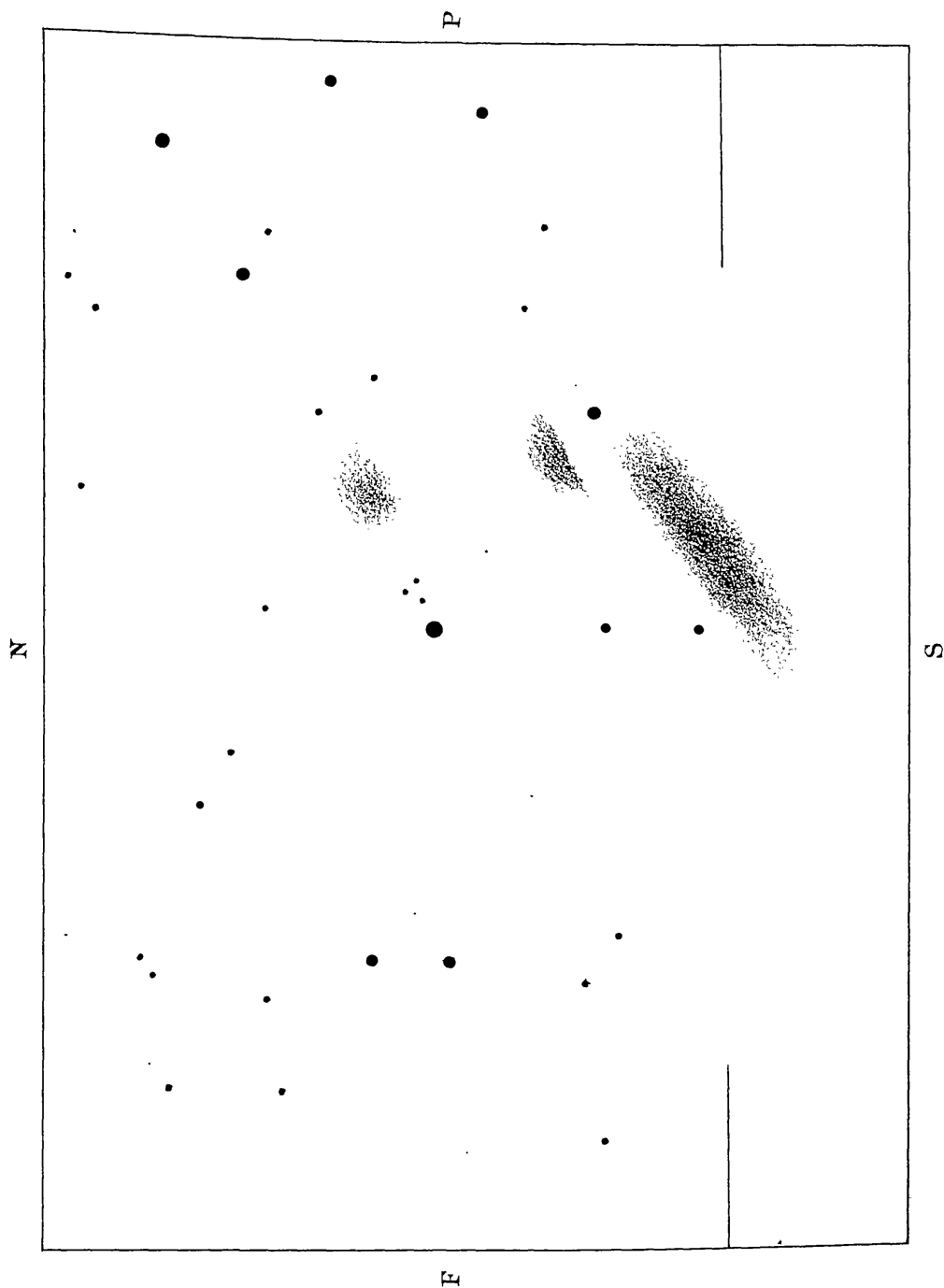
Royal Observatory, Greenwich,
1880, April 24.

The Nebula in the Pleiades. By A. A. Common, Esq.

An observation of this Nebula was made on February 8th, 1880, with my three-feet telescope, and the sketch made at this time, a copy of which is attached, differs so from that of Mr. Maxwell Hall in the January number of the *Monthly Notices* (which came to hand soon after) that it may be worth recording. The stars on this sketch are traced from two photographs taken that night with one and a half minute's exposure, and are given as a guide to the positions of the nebulae seen.

The oval patch of light near *Alcyone* was only seen on this night; later observations made with a view to correct the place of the nebula proper did not show it, but the nights subsequent to the first were not so fine. The smaller patch of light north of *Merope* was always seen; the edge near that star is pretty sharply defined, with dark sky between. The general shape and direction of the nebula proper was as shown. A fine night was waited for with the hope of seeing better the extent of this nebula, but without success. There were pretty certain indications of an extension beyond *Merope* in the direction of *Electra*. In apparent brightness the sharp edge of the smaller nebula was equal to the brighter part of the large one; but this may have been due

NEBULÆ IN THE PLEIADES.



February 8th 1880.
A. A. Common,
Faling.

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April 1880. *Mr. Ellery, The Great Southern Comet, 1880.* 377

to the contrast the edge made with the sky in the one case, and the gradually brightening towards the middle in the other.

There is a great deal yet to be settled as to the extent and number of the nebulae in this cluster, and the remarkable difference in the direction given of the principal line of the large nebula is quite incomprehensible.

Rotation Period of Jupiter. By T. D. Brewin, Esq.

In observing Jupiter for the first time last Opposition, August 7th, 1879, 11^h 30^m G.M.T., I saw a very conspicuous red spot in the southern hemisphere; the preceding end of red spot at the time was as near central as I could judge by eye-estimation. I made a drawing of the planet, thinking it would be a favourable opportunity to obtain the rotation period from sketches taken when the preceding end was central, and at as great an interval of time between successive sketches as possible.

The last sketch of the spot when the preceding end was central I obtained February 4th, 1880, 5^h 30^m G.M.T., a period of 180 days 18 hours from the first drawing, equal to 437 rotations, the result obtained being 9^h 55^m 34^s.1, a result so near to Mr. Pratt's described in the January *Notices* of the R.A.S. that I thought it would be of interest to send an account as confirmatory of Mr. H. Pratt's.

14, *St. Nicholas, Leicester,*
1880, *April 9.*

Observations of the Great Southern Comet, 1880, made at the Melbourne Observatory. By R. L. J. Ellery, Esq., Director of the Observatory.

The Comet whose appearance I announced by the last mail was observed here from the 9th till the 17th instant. After its first apparition it became rapidly fainter, while the tail increased in length up to 45°; by the 12th, however, the tail had almost disappeared, and on the 17th—the date of our last observations—the nucleus could only be observed with considerable difficulty in a dark field. The moonlight and the Comet's rapid diminution in brightness have now put it out of reach of further measures. A table of apparent places deduced from our observations is annexed.

Observatory, Melbourne,
1880, *February 20.*